



Pergamon

The Leadership Quarterly 12 (2001) 181–196

The
Leadership
Quarterly

Values predicting leader performance in the U.S. Army Reserve Officer Training Corps Assessment Center: evidence for a personality-mediated model[☆]

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Abstract

The notion that leaders' values and motives influence their effectiveness is an old one. Little is known, however, about the role of values and motives on the ratings of leadership in assessment center settings. The present study examined the interrelationships between motives and values, personality, and rated leadership performance in a military assessment center designed for Reserve Officer Training Corps (ROTC) cadets. We examined power and affiliation, two value orientations found to predict leadership effectiveness as measured by managerial/leader performance in McClelland and Burnham's leader motive pattern (LMP). We expand on past research using the LMP by studying its utility in an assessment center setting and by positing that the personality factor of extraversion acts a mediator of the values–leadership linkage. Analyses revealed that extraversion completely mediated the relationship between affiliation and cadet leadership assessment, and extraversion partially mediated the relationship between power and cadet leadership assessment. Our results are discussed along with implications of the present study and directions for future research. © 2001 Elsevier Science Inc. All rights reserved.

1. Introduction

As you drive onto the grounds of Fort Sam Houston, you are greeted by a series of roadside signs, somewhat akin to old Burma–Shave signs. Rather than being an amusing

[☆] Portions of this work are based on the doctoral dissertation of Jeffrey Thomas, under the advisement of Marcus Dickson.

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rhyme, however, these signs say *Loyalty, Duty, Respect, Selfless service, Honesty, Integrity, and Personal courage*. At the Walter Reed Army Medical Center, seven of the main hospital building's structural pillars are inscribed with these same seven values, which form the acronym LDRSHIP. Many other Army facilities have similar displays. In other words, every time a soldier or visitor goes to an Army post or facility, he or she is likely to be reminded of the core leadership values of the US Army.

In recent years, it has become fashionable to disavow the personal values of leadership and to focus simply on leaders' influence on task accomplishment (see Cohen, 1995; Francis, 1990; Shaub, Finn, & Munter, 1993, for further discussion of these trends). The US Army, however, has maintained its belief that possessing certain personal values and motives is one of the prime prerequisites for effective leadership. In this study, we examine "leaders-to-be" in the Army — Reserve Officer Training Corps (ROTC) cadets — going through the final assessment of their leadership potential before being commissioned as Army officers. We investigate the degree to which the personal values and motives that the cadets bring with them to this evaluative assessment center are related to their rated effectiveness as future officers.

We begin by reviewing the literature on the relationship between personal values and leadership effectiveness, focusing on the motives incorporated in the leader motive pattern (LMP). We then consider the applicability of the LMP to leadership ratings made in an assessment center setting. In this section, we propose that in assessment centers a relationship between values and leadership ratings exists, but it is mediated by more salient personality characteristics. We conclude by testing this model, and discussing the results.

2. Personal values and motives and leadership effectiveness

Individuals, including leaders, hold different values. That is, they put a premium on different things — for instance, some individuals seek influence and power while others seek closeness and affiliation with others. The idea that the values held by leaders are related to their effectiveness is not new. Jethro encouraged Moses to choose only "able men, such as fear God, men of truth, hating covetousness" to serve as leaders of the Hebrew exodus. Kung-fu-tzu noted around 500 BCE that "He who exercises government by means of his virtue may be compared to the north polar star, which keeps its place and all the other stars turn towards it." More recently, researchers have focused on this topic from a variety of perspectives. Ghiselli's (1968a) review of extant research found a consistent correlation of between .25 and .30 between the personal values of managers and several criteria of managerial effectiveness. Trow and Smith (1983) further found that leaders generally hold the values of movements they lead more strongly than do followers in those movements — the leader's values thus may provide guidance to the leader and a model to emulate for followers, so that followers have a model on which they can focus and to which they can aspire. Within a hierarchical organizational structure, midlevel supervisors (i.e., officers) serve a function of interpreting and disseminating the policies, and thus inherently the values, of top management (i.e., higher officers in the chain of command).

Thus, the values of top leaders are also likely to be transmitted indirectly through their effects on midlevel leaders, as well as directly through role modeling.

Because the range of possible motive and value orientations is so wide, several researchers have attempted to develop a taxonomy to better describe and compare across conditions and people. Among the best known of these is the work of Murray, and more so his student, McClelland (1951, 1967, 1976).

2.1. The leader motive pattern

McClelland and Burnham (1976) explored the results of several hundred managers' Thematic Apperception Test (TAT) scores on the motives referred to as need for power, achievement, and affiliation (nPow, nAch, and nAff, respectively), and found that successful managers wrote stories that reflected higher than average nPow scores, lower than average nAff scores, and a moderate degree of activity inhibition (the restraint to use power only for social or organizational goals rather than personal needs). They refer to this particular motive combination as the LMP. The LMP has been shown to have predictive validity in TAT protocols using a sample of communications managers (McClelland & Boyatzis, 1982) and with Winter's (1978) study of senior naval officers. Further, McClelland (1980) found that LMP scores were correlated with managerial advancement over 16 years ($r=.33$).

2.2. Examining values in assessment centers

The LMP research clearly provides empirical support for the idea that values are related to leadership performance in organizational settings. In this paper, however, we are interested in the role that values play in assessment center settings. We believe that organizational settings and assessment center settings are different. We propose that they are so different, in fact, that the LMP results may provide little directly applicable information about the link between values and leadership ratings in assessment center settings. Thus, the goal of this paper is to address the link between values and leadership ratings in assessment center settings.

We address this topic because it has important implications for organizations that use assessment centers, military and civilian, in selecting leaders. Presumably, supervisory-level assessment centers help organizations identify individuals who have values related to effective leadership. However, if this is not the case in one assessment center setting, it calls into question the utility of assessment centers for this purpose.

In examining the role of values in assessment center settings, we use the LMP framework focusing specifically on need for power and need for affiliation and these links to leadership ratings. We begin, however, by considering the differences between assessment centers and the organizational settings where the original LMP studies were conducted.

2.3. Criteria in assessment centers

The major difference between assessment centers and the organizational settings in which the LMP studies were conducted is that the criterion variables in organizational settings tend

to be based upon relatively long-term evaluations (in some cases, evaluations over numerous years). In contrast, criterion variables from assessment centers are by necessity based upon short-term evaluations, typically a matter of weeks at the very most (and more commonly, only 1 or 2 days).

This difference in criterion variables raises some interesting questions about the link between values and leadership performance in assessment center settings. Specifically, while one might expect even small differences in values to be related to leadership success over time, one would not necessarily expect values to have a direct role in leadership ratings in an assessment center. For one thing, ratees' values may simply be inaccessible to raters. That is, raters may not have an opportunity to learn about ratees' interests in the short duration of an assessment center.

What role, then, do values play in the context of assessment center ratings? We propose that to answer this question we must examine the nature of the assessment center, and understand the cues that raters use in making their evaluations. This leads us to a personality-mediated model.

2.4. Personality-mediated model

In assessment center settings, raters presumably base their ratings on accessible cues. That is, they base their ratings of individual potential on individual characteristics that are easily observable. One of these cues is likely to be ratee personality, particularly extraversion. Researchers have consistently demonstrated that personality can be seen as being made up of five primary factors: extraversion, agreeableness, conscientiousness, emotional stability, and openness to experience. Of these five factors, extraversion (along with conscientiousness) has emerged as the most predictive of job performance (Barrick & Mount, 1991; Salgado, 1997). Extraversion is a dimension of personality that reflects sociability, gregariousness, assertiveness, and activeness (McCrae & Costa, 1985; Norman, 1963) and it has emerged as a valid predictor of performance particularly for jobs that involve a great deal of social interaction (Barrick & Mount, 1991; Piedmont & Weinstein, 1994; Salgado, 1997).

Unlike values, we believe that extraversion is a cue that raters in an assessment center are likely to detect over the course of the assessment period. While a rater may not have enough exposure to his or her ratees to know their values (i.e., interests), the rater would be expected to know whether or not the ratee is sociable, gregarious, assertive, and active. Furthermore, not only would we expect raters to be attuned to ratees' extraversion, we would also expect to find a direct positive link between ratees' extraversion and leadership ratings based on the literature cited earlier.

In short, extraversion is likely to be an important factor in leadership ratings in supervisory-level assessment centers. We also believe, however, that values are likely to play an important role, because extraversion serves as a way for ratees to manifest their power and affiliation value orientations. Specifically, Hogan and Hogan (1996) have shown that extraversion, as measured by sociability and ambition in the Hogan Personality Inventory (HPI; Hogan & Hogan, 1992) is related to power and affiliation with correlations ranging from .36 to .41. In other words, individuals who have a high need for power and a high need for affiliation also tend to be extraverted.

Conscientiousness is another personality factor that has been tied to performance in meta-analytic review (Barrick & Mount, 1991; Salgado, 1997). However, we did not believe that conscientiousness would be an important factor in determining cadet ratings in the present ROTC assessment center. In short, we did not believe that conscientiousness would serve as a way for cadets to exhibit their power and affiliation value orientations in the assessment center and would not be as salient a characteristic for raters as extraversion. To bolster our assertion, we point to Hogan and Hogan (1996) who found no relationship between conscientiousness (as measured by prudence) (Hogan & Hogan, 1992) and power, and only a weak one between conscientiousness and affiliation. Therefore, individuals who have a high need for power do not tend to be more conscientious; likewise, those with a high need for affiliation tend to be only slightly more conscientious. Thus, we did not consider conscientiousness as a possible mediator in our model.

To sum, when we combine the findings from Hogan and Hogan (1996) linking power and affiliation to extraversion with the findings linking extraversion to performance we are left with a mediated model where values are linked to leadership ratings through extraversion. In other words, we propose that values are important in accounting for performance in assessment center situations, but the relatively fleeting nature of the assessment center makes personality (particularly extraversion) a key mediating mechanism.

2.5. Current study

The purpose of this study is to test the proposed mediation model. Note that an interesting aspect of this mediation model is that it proposes that need for affiliation will be positively related to leadership ratings. Recall, in contrast, that LMP studies conducted by McClelland and colleagues and Winter found a negative relationship between need for affiliation and leadership. We can summarize the study in terms of the following hypotheses.

Hypothesis 1: Extraversion will be positively related to leadership ratings in the military assessment center setting.

Hypothesis 2: The values of power and affiliation will be positively related to extraversion.

Hypothesis 3: The relationship between (a) power and leadership ratings and (b) affiliation and leadership ratings will be mediated by extraversion.

3. Method

3.1. Setting

The summer prior to their senior year at university, all ROTC scholarship-contracted cadets are required to participate in an intensive, 5-week leadership training and evaluation course

called Advanced Camp. Advanced Camp has been designed in accordance with the precommissioning training philosophy of the US Army, which develops cadet leadership through active coaching from cadre (officers and noncommissioned officers assigned to Cadet Command and stationed at university ROTC battalions). This philosophy emphasizes building skill and confidence to influence others, and developing leader character by reinforcing values, attributes, and skills desired in an Army leader (Cadet Command, Reg. 145-3).

In order to assess these values, attributes, and skills in cadets, the Army conducted a job analysis of the required skills and leader behaviors expected of second lieutenants, the Army's "first supervisors." Based on this analysis done in the early 1980s, the criteria for the evaluative assessment center known as Advanced Camp was developed by the Army's Cadet Command. These same criteria are used throughout a cadet's ROTC service as well as at Advanced Camp.

Before moving on, it is important to mention the implications of Advanced Camp performance for cadets. The better cadets perform at Advanced Camp, the more likely it is that they will be assigned to their preference of active or reserve duty and to their preferred branch of the US Army (e.g., infantry, quartermaster, judge advocate general). This, no doubt, has implications for cadet success in the beginning of their military career as well as for future retention/attrition issues. Thus, Advanced Camp is perceived as an extremely important and stressful event for most cadets.

3.2. Participants

The participants in this field study were 818 ROTC cadets representing over 150 colleges and universities from across the US. The entire sample consisted of 24% female and 76% male cadets. Further, 39% of the cadets had prior military service experience, leaving 61% with no prior military experience before ROTC. With regard to the ethnic background of participants, 72% were Caucasian, 15% were African American, 6% were Hispanic, 5% were Asian or Pacific Islanders, and 1% of the sample were of Native American descent. Cadets ranged in age from 18 to 33, with a median age of 22 (mean = 22.26, S.D. = 2.52).

Participation in the present study was voluntary for all cadets and took place during the first 3 days of administrative processing for Advanced Camp. Due to the time constraints imposed by the rigorous training and evaluation schedule, Cadet Command recommended survey administration when cadets were already performing other administrative intake tasks. Surveys were organized and administered per regiment (approximately 320 cadets). Advanced Camp is run in staggered cycles with a new regiment beginning every 4 days. Data were collected from nine regiments. Of all Advanced Camp cadets, 818 volunteered to participate and provided complete data. Our sample consisted of roughly 29% of the population of cadets and did not differ significantly from nonparticipants across demographic variables.

3.3. Procedure

Participants completed a battery of paper-and-pencil questionnaires. Included in the battery was the Motives, Values, and Preferences Inventory (Hogan & Hogan, 1996), the HPI (Hogan

& Hogan, 1992), along with a demographic survey, an explanation of the study, and an informed consent form. Questionnaire data were collected from late June to mid-July 1998, and constituted the predictor measures for the study.

The paper-and-pencil questionnaires were distributed to each regiment where staff distributed the questionnaires to each of the eight platoons (roughly 38–40 cadets per platoon) within each regiment. Once distributed, the platoon tactical officer and his or her staff briefed the cadets, stressing that participation was voluntary, and then administered the questionnaire to those who consented to participate. The survey battery took approximately 1 h to complete and was subsequently matched with each cadet's leadership rating.

3.4. *Criterion variable*

Cadet Command assesses cadets on 16 dimensions of leadership that make up a large component of the cadet evaluation score (CES). Because the dimensions that form the CES assess much more than are relevant for the present study, we used military subject matter experts (SMEs) to classify these dimensions under Mann's (1965) three managerial performance dimensions. Mann's dimensions are administrative, technical, and human relations skills. This procedure was recently used by Mount, Judge, Scullen, Stytsma, and Hezlett (1998, p. 562) who adopted this strategy because, "previous research investigating ratings of managers' performance has been hindered because researchers have not used a classification scheme to organize numerous dimensions of managers' performance." Additionally, it is well known that multidimensional scales often used in commercial and in-house assessment centers rarely measure all they purport to measure from a factor analytic point of view. We felt that Mann's parsimonious taxonomy provided for a valid classification scheme for Cadet Command's 16 leadership performance dimensions.

Table 1 reveals how the SMEs classified the 16 dimensions assessed at Advanced Camp. We retained the dimension if there was at least 75% agreement among SMEs. Of particular interest conceptually was the relationship between cadet self-reported values and their ratings on the human relations aspects of leader performance (HR-L). Of the 16 dimensions of leadership rated by cadre, SMEs agreed that oral communication, initiative, influence, sensitivity, and followership were human relations skills of leadership performance. As a follow-up test, we conducted a factor analysis to verify that this reconstructed measure was unidimensional. It was found to be unidimensional with loadings ranging from .60 to .68.

Cadet Command summary ratings for dimensions making up the HR-L used the following four-point scheme: *O* — outstanding, *E* — excellent, *S* — satisfactory, or *N* — needs improvement. These ratings were then quantified by Cadet Command where *O*=18.75, *E*=16.00, *S*=13.00, and *N*=10.75 to form the tactical officer's assessment of cadet HR-L. Scores were free to vary from 51.25 to 93.75. Nine dimensions were subsumed under technical and administrative skills and the remaining two dimensions could not be classified with at least 75% SME agreement. These dimensions were not of interest in the present study, however.

Table 1

Military SMEs classification of ROTC 16 dimensions of leadership under Mann's (1965) taxonomy

Leadership dimension	Human relations skills (%)	Administrative skills (%)	Technical skills (%)
Oral communication	75		
Initiative	75		
Sensitivity	100		
Influence	100		
Followership	100		
Delegation		75	
Administrative control		100	
Planning and organizing		75	
Oral presentation			75
Problem analysis			100
Judgment			100
Mission accomplishment			100
Technical competence			100
Physical stamina			100
Written communication	NA	NA	NA
Decisiveness	NA	NA	NA

Military SMEs could not reach 75% agreement on the classification of written communication and decisiveness.

3.5. Predictor variables

3.5.1. The Motives, Values, and Preferences Inventory

The Motives, Values, and Preferences Inventory (MVPI; Hogan & Hogan, 1996) was designed for two purposes: (1) to assess the fit between an individual and a given organization and (2) to assess a person's motives and values directly. In this latter regard, the MVPI is unique, as it is currently the only nonprojective measure used to assess motives and values (Hogan & Hogan, 1996) by asking respondents about their interests.

Hogan and Hogan (1996) note that values have historically been equated with other constructs such as beliefs and interests (e.g., Allport, 1961), attitudes (e.g., Campbell, 1963), needs (Maslow, 1954), and preferences (Rokeach, 1973). Using these constructs interchangeably is problematic because it does not imply any order to the interrelationships among them. Hogan and Hogan, like Super (1973), believe that these constructs are clearly related, but at different levels of abstraction. In fact, both Hogan and Hogan and Rokeach (1973) place values at the top of the hierarchy of motivational constructs and interests at the bottom because interests are more "concrete." Following this logic, knowing what one is motivated by or what one values is determinable by knowing their likes and dislikes, i.e., their interests.

The MVPI is a self-administered inventory consisting of 200 statements with a three-point response scale (1 = disagree, 2 = uncertain, and 3 = agree). There are 10 scales to the MVPI with 20 items per scale. The 10 scales for the MVPI are *aesthetic*, *affiliation*, *altruistic*, *commercial*, *hedonistic*, *power*, *recognition*, *scientific*, *security*, and *tradition*. Each scale taps five content areas: lifestyle, beliefs, occupational preferences, aversions, and preferred associates.

Because this measure is designed to assess a person's motives and values via interests, there are no correct or incorrect responses for the scales. Therefore, Hogan and Hogan (1996) argue that there was no need to develop validity or faking scales to assess response set or response style biases. Based on the LMP literature, our primary interest in the present study was respondent data from the power and affiliation scales. As with any interest measure, the content validity of the MVPI is of major importance. The test items represent the motives, values, and interests that are being measured (Hogan & Hogan, 1996) along the five themes noted previously. Furthermore, the MVPI has demonstrated convergent validity with a number of other well-known psychological measures (e.g., Holland's Self-Directed Study, Myers-Briggs Type Indicator, HPI). Predictive validity is also important. However, because the MVPI is a relatively new measure we are unaware of research testing its predictive validity. It is worth noting, however, that interest measures in general have demonstrated strong links to organizational outcomes such as satisfaction (Bartling & Hood, 1981; Cairo, 1982) and productivity (Barge & Hough, 1988).

3.5.2. *Extraversion*

Extraversion was measured using the HPI (Hogan & Hogan, 1992). The HPI is a self-administered measure of the five-factor model generally designed for use in organizations. The HPI assesses extraversion using two subscales: ambition, which measures how socially self-confident, achievement-oriented, leader-like, competitive, and energetic an individual is, and sociability, which measures the degree to which a person needs or values interaction with others. To create an extraversion scale, we combined individuals' responses on the ambition and sociability measures and formed a linear composite consisting of both extraversion subscales following a procedure offered by Nunnally and Bernstein (1994, p. 268). The reliability estimate for our composite measure of extraversion was .85.

3.6. *Analytic strategy*

All hypotheses including the path analysis test for mediation (Hypothesis 3) were based upon random coefficient models (Bryk & Raudenbush, 1992; Kreft & DeLeeuw, 1998; Pinheiro & Bates, 2000). Random coefficient models were used because the data were collected from individuals nested within groups: platoons within companies within regiments, and the nested nature of the data resulted in nonindependence in the leadership ratings. That is, the leadership ratings clustered by platoon membership. The intraclass correlation coefficient, an estimate of nonindependence (see Bliese, 2000), was .11 indicating that 11% of the variance in individuals' leadership scores was related to platoon membership. In cases where nonindependence due to groups is present, but not controlled for in appropriate statistical models, it can lead to inferential errors (Bryk & Raudenbush, 1992; Kreft & DeLeeuw, 1998). This occurs because a key assumption underlying many common statistical models is that observations are independent. Thus, random coefficient models were the most appropriate method for data analysis.

4. Results

Table 2 provides descriptive statistics and intercorrelations among variables. Despite the fact that this table does not control for nonindependence, notice that it provides preliminary support for Hypotheses 1 and 2. Specifically, in terms of Hypothesis 1 extraversion is related to the HR-L rating. In terms of Hypothesis 2, both power and affiliation are positively related to extraversion.

Table 3 provides the standardized results from the random coefficient modeling analyses. The table is divided into three parts with each part testing one of the three hypotheses. Hypothesis 1 proposed that extraversion would be positively related to individuals' leadership ratings. Notice that this hypothesis was supported. Individuals with high extraversion tended to have high HR-L ratings.

Hypothesis 2 proposed that affiliation and power would be positively related to extraversion. Notice in Table 3 that this hypothesis was supported. The standardized coefficients show that the relationship between high affiliation values and extraversion was particularly strong.

Hypothesis 3 proposed that the relationship between values (affiliation and power) and leadership ratings would be mediated by extraversion. Three conditions must be met for complete mediation. First, values must be related to the mediator, extraversion. This condition was met in Hypothesis 2. Second, the mediator must be related to the outcome, leadership ratings. This condition was met in Hypothesis 1. Third, when the outcome (leadership ratings) is simultaneously regressed on both the mediator and the predictor (values), complete mediation is demonstrated when only the mediator is significant.

Table 3 shows that the relationship between an individuals' need for affiliation and his or her HR-L rating is completely mediated by extraversion. Notice that affiliation is unrelated to the leadership rating when the leadership rating is regressed on both extraversion and affiliation. The top portion of Fig. 1 provides a path analytic representation of the full mediation model.

Table 2
Descriptive statistics and correlations between variables ($N=818$)

Variable	Mean	S.D.	α	1	2	3	4
1. Power	49.1	5.85	.71	1.00			
2. Affiliation	48.5	5.53	.71	.35	1.00		
3. Extraversion	40.6	6.52	.85	.35	.44	1.00	
4. HR-L	73.3	6.34	.70	.12	.05	.14	1.00

All correlations are significant ($P<.001$) except the correlation between affiliation and HR-L (NS). HR-L is the criterion measure of human relations leadership rating.

The reliability estimate for extraversion was based on forming a linear composite of the sociability and ambition subscales and then using a formula for determining multi-item/scale reliability offered by Nunnally and Bernstein (1984). The formula is as follows: $r_{YY'} = 1 - \frac{\sum \sigma_i^2}{\sum \sigma_i^2 + \sum r_{ii}^2 / o^2_Y}$, where $\sum \sigma_i^2$ is the sum of the individual variances for sociability and ambition, $\sum r_{ii}^2$ is the sum of the individual variances for sociability and ambition multiplied by their respective reliability estimates, and o^2_Y is the variance of the sum of sociability and ambition.

Table 3
Standardized random coefficient model results

Outcome	Model parameters			
	β_1	β_1 <i>t</i> value	β_2	β_2 <i>t</i> value
<i>Hypothesis 1: HR-L</i>				
HR-L = $\beta_0 + \beta_1$ *Extraversion	.14	4.15**	NA	NA
<i>Hypothesis 2: Extraversion</i>				
Extraversion = $\beta_0 + \beta_1$ *Affiliation	.44	14.01**	NA	NA
Extraversion = $\beta_0 + \beta_1$ *Power	.35	10.56**	NA	NA
<i>Hypothesis 3: HR-L mediation test</i>				
HR-L = $\beta_0 + \beta_1$ *Extraversion + β_2 *Affiliation	.14	3.71**	.00	0.03
HR-L = $\beta_0 + \beta_1$ *Extraversion + β_2 *Power	.11	3.19**	.07	2.07*

N = 818 individuals within 48 platoons, within 18 companies, within 9 regiments.

* *P* < .05, two-tailed.

** *P* < .01, two-tailed.

In contrast to the total mediation involving affiliation, Table 3 suggests that extraversion does not completely mediate the relationship between an individual's need for power and his or her leadership rating. The results for power, instead, suggest partial mediation because power continues to be a significant predictor of leadership ratings in a model containing extraversion. In other words, the relationship between the need for power and leadership ratings is stronger than would be expected if the whole relationship was mediated via extraversion. The bottom part of Fig. 1 provides a path analytic representation of the mediation model. Notice that there is a significant link between power and leadership ratings.¹

5. Discussion

In this paper, we have examined the relationships between individual power and affiliation value orientations and ratings of HR-L in an assessment center setting. We now discuss the results, their implications, limitations of the present study, and directions for future research.

5.1. Personal values and leadership ratings

LMP research in organizational settings suggests that individual value orientation is related to leadership effectiveness. Specifically, individuals who have a high need for power; a high

¹ At the recommendation of one anonymous reviewer, we also tested for mediation using the remaining three of the "Big Five" personality dimensions (i.e., agreeableness, emotional stability, and openness to experience), though we had no hypotheses for those dimensions. The mediation tests were nonsignificant for each of these three personality dimensions.

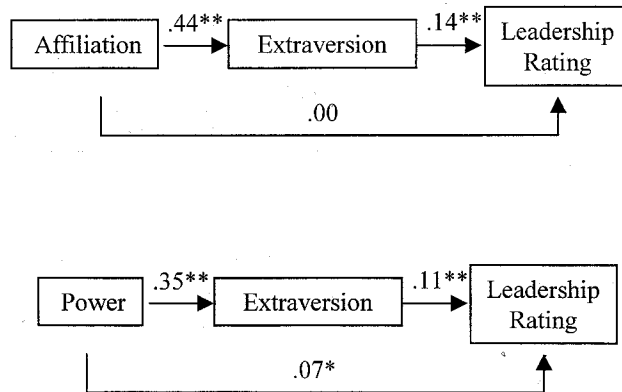


Fig.1. Path analytic representations of the mediating effect of extraversion. * $P < .05$; ** $P < .01$.

need for activity inhibition achievement, and a low need for affiliation tend to be successful leaders (McClelland, 1980; McClelland & Boyatzis, 1982; McClelland & Burnham, 1976; Winter, 1978). Most of this research, however, is based upon long-term evaluations of leadership success. We expanded the LMP research by examining the relationship between values (specifically power and affiliation) and leadership success in an assessment center setting.

However, because assessment centers tend to be brief in duration, we proposed that the effects of values (which are relatively unobservable) would be mediated through personality (which is potentially much more observable). Specifically, we proposed that extraversion would be the key mediator in the relationship between values and leadership success. In contrast to the LMP model, the mediation model that we proposed implies a positive relationship between need for affiliation and rated leadership potential.

The results provided three key findings. First, the results revealed that extraversion was positively related to leadership success as defined by leadership ratings. This finding replicates the meta-analytic findings of Barrick and Mount (1991) who found that extraversion is often positively related to performance. Second, our results revealed that individuals who valued power and affiliation tended to have high extraversion scores. That is, there was a positive relationship between the power motive and extraversion and between the affiliation motive and extraversion. These findings replicate the findings of Hogan and Hogan (1996).

The third key finding was that, as expected, extraversion completely mediated the relationship between the affiliation motive and leadership success, and extraversion partially mediated the relationship between the power motive and leadership success. Interestingly, the complete mediation model for affiliation also implies an indirect positive relationship between affiliation and leadership success. Recall that the LMP found a negative relationship between affiliation and leadership success. Specifically, in our mediation model individuals with a high need for affiliation tended to be quite extraverted, and extraverted individuals tended to receive high leadership ratings. Therefore, individuals with high affiliation had a

tendency to receive higher leadership scores via the mediating mechanism of extraversion (though the direct effect was nonsignificant).

The partial mediation results involving power were also interesting. The results implied that part of the reason why individuals with a high need for power receive high leadership scores is that high need for power individuals tend to be extraverts. However, the fact that power has a direct positive relationship with leadership ratings over and above the effect through extraversion suggests that power is an important determinant of leadership success. In some ways, these results hearken back to McClelland and Burnham's (1976) classic article "Power is the great motivator," in that both studies found important effects for the link between power and leadership success. We find it particularly interesting that need for power was related to leadership success in the relatively short-term assessment center setting when, by all odds, we expected personality (i.e., extraversion) to be the dominant cue related to leadership ratings.

5.2. Affiliation and the leader motive pattern

The fact that affiliation was positively related to leadership success via the mediating mechanism of extraversion while the LMP proposes a negative relationship raises questions about the role of need for affiliation in terms of leadership success. It appears that high need for affiliation may be beneficial for initial leadership success. Over the long term, however, effective leaders may be those that make and implement decisions that require a low need for affiliation. Holding subordinates to concrete performance standards, for example, may create a less collegial work environment, but may ultimately be a characteristic of a successful leader.

Support for this idea can be found by noting that a number of studies have indicated that the relationship between the LMP components and leader effectiveness is likely to be seen at higher levels of management (e.g., Cornelius & Lane, 1984; McClelland & Boyatzis, 1982). Therefore, while we failed to find the expected negative relationship between affiliation and leadership success in the short-term assessment center setting, we would expect to find this relationship at higher levels of "management" within the military.

There is another possible explanation for our results regarding affiliation. It may be that it is important for cadets to display an affiliation value orientation because a certain degree of mission interdependence, cooperation, and support is required among cadets in the Advanced Camp assessment center. For example, when a cadet is not in an evaluated leadership position in the assessment center, he or she acts as a support player (within a squad, platoon, or company) and follows the ratee. Conversely, when a cadet is man evaluated leadership position, other cadets serve as followers of the focal cadet. Thus, there is a good deal of interdependence that needs to take place in order for a rated cadet to be successful. If a cadet in the follower role is not cooperative or supportive of a rated cadet, then he or she may have to deal with the consequences of such an action the next time he or she is in a rated position leading groups of other cadets. Being extraverted, and thus manifesting an affiliation value orientation, may be read by Advanced Camp raters and other cadets as being cooperative, supportive, and working interdependently on the mission.

More broadly, it is plausible that there is a much greater reliance on mission interdependence, mutual support, and cooperation at more proximal levels within the military, which invests a good deal of effort in promoting unit “*esprit de corps*” and engendering cooperation as normative behavior within a unit. Therefore, perhaps it is not that surprising that we find a positive relationship between affiliation and cadet leadership ratings. While other studies involving the LMP have found negative relations between affiliation and leadership/management performance, these have been found at higher levels in the hierarchy. Upper levels of management in an organization reflect *true* hierarchical rank differences where mutual support, mission interdependence, and cooperation are much less common and necessary.

5.3. *Implications for future research*

5.3.1. *Values and personality*

One of the strengths of this paper is that it began to explore the link between values, personality, and outcome variables. It is our position that personality will either moderate or mediate, or both, the link between values and leadership success in a number of settings. Furthermore, we believe that the advent of the MVPI represents an advancement in the assessment of motives and values. By measuring values, preferences, and interests along with personality, researchers get an idea of both what an individual wants to do (values) and what an individual is likely to do (personality). A number of researchers (e.g., Ackerman & Heggstad, 1997; Gellatly, Paunonen, Meyer, Jackson, & Goffin, 1991) have begun to examine this distinction, but relatively little work has been conducted in the leadership domain.

The importance of the power motive in predicting rated leadership effectiveness is not surprising, especially given the sample and the hierarchical nature of the Army as an organization. Missing from this study, however, was a measure of activity inhibition (the restraint to use power only for social or organizational goals rather than personal needs), and it would seem important to determine if the Advanced Camp assessment of leadership is sensitive to this important personal trait. It is possible, for example, that the direct relationship between power and leadership ratings is moderated by activity inhibition.

5.3.2. *Long-term leadership assessment*

As we have noted, the criterion variable under study here was a short-term leadership criterion, and for this reason there were probably unique factors that influenced the leadership scores. Given that researchers such as Bray and Howard (1983) have traced changes in personality dimensions over time and as a function of managerial changes, it would be interesting to follow this year's group of cadets and determine the extent to which features of their personality, motives, and values change as a function of their leadership status (e.g., rank). Conducting a long-term follow-up would serve two purposes. First, it would allow a replication of the LMP research; second it would serve to provide a validity study to determine the effectiveness of the assessment center.

The large sample size in the present study allows for the possibility for longitudinal research following career advancements of Advanced Camp 1998 cadets. This year's group

was commissioned in May 1999. The research here represents a comprehensive database from which to build future research that is of theoretical and practical value to the US Army, and to organizations and leadership scholars.

In sum, we find it encouraging to note that values collected from one individual were related to leadership ratings made by another individual even within the short-term context of an assessment center. The results suggest that individual values play an important yet indirect role in leadership effectiveness. We close by suggesting that values may be like compound interest. That is, values may differ only slightly and have only a slight effect on short-term leadership success just like differences in interest rates have little effect on one's nest egg when the time horizon is short. Over time, however, small differences due to values may have a profound effect on leadership success just like small difference in interest rates can have a big effect on one's nest-egg given a long time horizon. Over time, individuals who value power and who have the personality characteristics to put their values into action are likely to be successful leaders.

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